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EXAMINER

LY, NGHI H

ART UNIT	PAPER NUMBER
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2686

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/634,552

**Applicant(s)**

ROFOUGARAN ET AL.

**Examiner**

Nghi H. Ly

**Art Unit**

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24,32-43,51-77,85-90,92-105,112-123 and 164 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24,32-43,51-77,85-90,92-105,112-123 and 164 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-16, 19-22, 32-43, 51-77, 85-90, 92-97, 100-103, 112-119, 122, 123, and 164 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meador et al (US 5,953,640) in view of Gorsuch (US 6,526,034) and further in view of Janc et al (US 4,893,316).

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Regarding claims 1, 32, 51, 66, 85, 112 and 164, Meador teaches a method an apparatus for wireless communications using a receiver, transmitter and local oscillator, comprising:

programming a frequency of a clock in the local oscillator (see Meador, column 4, lines 44-50),

receiving a first signal at the receiver from a wireless source (see Meador, column 2, lines 25-29), downconverting the received first signal with the clock (see Meador, column 3, lines 23-33), upconverting a second signal with the clock (see Meador, column 4, lines 38-50), and transmitting the upconverted second signal from the transmitter into space (see Meador, column 4, lines 38-43).

Meador does not specifically disclose programming one of the receiver and the transmitter to process communication protocol for a local area network or personal area network.

Gorsuch teaches programming one of the receiver and the transmitter to process communication protocol for a local area network (see Fig.6, and column 10, lines 50-59, see "W-LAN" or personal area network (also see Fig.6, box 240 and column 10, lines 50-59, see "IEEE 802.11").

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to provide the teaching of Gorsuch into the system of Meador in order to provide short range, high speed wireless communication path.

The combination of Meador and Gorsuch does not specifically disclose the programming comprises programming a demodulator with a demodulation.

Janc teaches the programming comprises programming a demodulator with a demodulation (see column 22, lines 63-66).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to provide the teaching of Janc into the system of Meador and Gorsuch in order to provide a radio structure which substantially implemented using integrated circuit techniques.

Regarding claims 2-10, 13, 33, 35-37, 42, 43, 52-58, 67-70, 86-90, 92-95, 113-117, 122 and 123, Meador further teaches that the transmission/reception of the first/second signal comprises filtering the signal with a filter and amplifying the signal with an amplifier, and the programming comprises programming a frequency band of the filter and programming gain of the amplifier (see Meador, column 3, line 1 to column 4, line 22 and column 6, lines 30-43).

Regarding claims 11, 12 and 59, Meador further teaches that his receiver component comprises a second amplifier having a programmable gain, and the receiver also comprises a second filter coupled to the second amplifier and having a programmable frequency band, and a demodulator coupled to the second filter and having programmable demodulation (see Meador, column 3, line 1 to column 4, line 22 and column 6, lines 30-43).

Regarding claims 14, 38-41, 72, 96 and 118, Meador teaches that the downconversion comprises mixing the first signal with a clock and that second clock is mixed with a third clock (see Meador, column 3, lines 23-33).

Regarding claims 15, 19, 20, 21 and 100-102, Meador teaches upconverting the second signal before transmission into space with a second clock that is mixed with a third clock (see Meador, column 4, lines 38-50).

Regarding claims 16, 22, 97, 103 and 119, Meador teaches generating the third clock by dividing the second clock by an integer  $N$  (see Meador, column 3, line 34 to column 4, line 22).

Regarding claim 34, the combination of Meador, Gorsuch and Janc further teaches the received first signal is downconverted to an intermediate frequency signal (see Janc, column 4, lines 41-55 and column 24, lines 11-21).

Regarding claims 60-65, Meador teaches that a local oscillator (LO) is coupled to the receiver and transmitter (see Meador, column 3, lines 47-64). The LO comprises a clock generator which outputs a clock to the receiver and transmitter (see Meador, column 4, lines 38-47). The transmitter comprises a mixer to mix the clock with the baseband signal (see Meador, column 4, lines 23-37). The transmitter further comprises an amplifier and filter coupled to the mixer, the amplifier or filter can both be the programmable transmitter component (see Meador, column 3, line 1 to column 4, line 22 and column 6, lines 30-43). The transmitter also has a mixer (see Meador, column 3 line 1 to column 4, line 22 and column 6, lines 30-43).

Regarding claims 71, Meador further teaches that his transmitter component comprises a second filter with a programmable frequency band to filter a baseband signal, and wherein the transmitter further comprises a third mixer coupled to the second filter to mix the clock with the filtered baseband signal, and a second amplifier coupled to the third mixer and having a programmable gain (see Meador, column 3, line 1 to column 4, line 43 and column 6, lines 30-43).

Regarding claims 73-76, Meador further teaches that the second clock generator comprises an oscillator and a divider coupled to the oscillator, the divider having a control input coupled to the controller to program a frequency of the second clock. The clock generator comprises a voltage controlled oscillator (VCO) to generate the clock, the VCO having a frequency different than that of the clock and a mixer is coupled to both the divider and the VCO (see Meador, column 3, line 1 to column 4, line 50 and column 6, lines 30-43). The divider also

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comprises a control input coupled to the controller to program the frequency of the clock (see Meador, column 3, line 1 to column 4, line 50 and column 6, lines 30-43).

Regarding claim 77, Meador further teaches that the clock generator further comprises a phase lock loop having a control input coupled to the controller to program the frequency of the VCO (see Meador, column 5, line 1 to column 6, line 67).

4. Claims 17, 18, 23, 24, 98, 99, 104, 105, 120 and 121 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meador et al (US 5,953,640) in view of Gorsuch (US 6,526,034) and further in view of Janc et al (US 4,893,316) and Chen et al (US 5,940,456).

Regarding claims 17, 18, 23, 24, 98, 99, 104, 105, 120 and 121, the combination of Meador, Gorsuch and Janc teaches the clock is generated by dividing the second clock by an integer N (see Meador, column 3, line 34 to column 4, line 22). The combination of Meador, Gorsuch and Janc does not specifically disclose the clock comprises a frequency  $f_{Lo}$  equal to  $f_{vco} (N+1)/N$  wherein  $f_{vco}$  equals a frequency of the second clock where  $N=2$ .

Chen teaches the clock comprises a frequency  $f_{Lo}$  equal to  $f_{vco} (N+1)/N$  wherein  $f_{vco}$  equals a frequency of the second clock where  $N=2$  (see column 7, lines 26-30).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to provide the teaching of Chen into the system of Meador, Gorsuch and Janc in order to allow multiple data streams to be transmitted from one point to another (see Chen, column 2, lines 39-42).

### ***Response to Arguments***

5. Applicant's arguments (dated 07/06/05) with respect to claims 1-24, 32-43, 51-77, 85-90, 92-105, 112-123 and 164 have been considered but are moot in view of the new ground(s) of rejection.

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**Conclusion**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi H. Ly whose telephone number is (571) 272-7911. The examiner can normally be reached on 8:30 am-5:30 pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nghi H. Ly

  
07/15/05

  
**CHARLES APPIAH**  
**PRIMARY EXAMINER**